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November 20, 1997

EPA Region 5 Records Ctr.



248061

Mr. Michael Bellot
Remedial Project Manager
Remedial Response Unit No. 1
U.S. Environmental Protection Agency Region 5
77 West Jackson Boulevard
Chicago, IL 60604

NOV 20 1997

**Subject: Field Oversight Summary No. 2
Final Remedial Design Activities
Blackwell Forest Preserve Landfill, DuPage County, Illinois
Contract No. 68-W8-0084, Work Assignment No. 84-5P6Y**

Dear Mr. Bellot:

From September 18 to November 4, 1997, Tetra Tech EM Inc. (Tetra Tech) conducted weekly oversight of final remedial design activities at the Blackwell Forest Preserve Landfill in DuPage County, Illinois. The landfill is owned by the DuPage County Forest Preserve District (FPD). The activities that Tetra Tech oversaw consisted of installation of a leachate collection system (LCS) on the east and north slopes of the landfill. Envirocon, subcontractor to Montgomery Watson, which is a consultant to the FPD, and Envirocon's subcontractor, RTE Environmental, conducted the LCS installation activities.

Kevin Schnoes and John Grabs represented Tetra Tech on site during the oversight period. A summary of Tetra Tech's oversight activities is enclosed. Appendix A of the enclosure contains photographs of site activities, and Appendix B contains Tetra Tech's field notes.

If you have any questions, please call Kevin Schnoes at (312) 856-8735 or Manoj Mishra at (312) 856-8721.

Sincerely,

Kevin Schnoes

for Kostas Dovantzis, Ph.D., P.E., D.E.E.
Site Manager

Enclosure

cc: Thomas Short, EPA Project Officer (letter only)
Marguerite Hendrixson, EPA Contracting Officer (letter only)
Majid Chaudhry, Tetra Tech Program Manager (letter only)

ENCLOSURE

**FIELD OVERSIGHT SUMMARY NO. 2
FINAL REMEDIAL DESIGN ACTIVITIES
BLACKWELL FOREST PRESERVE LANDFILL
DUPAGE COUNTY, ILLINOIS**

(Eight Pages)

**FIELD OVERSIGHT SUMMARY NO. 2
FINAL REMEDIAL DESIGN ACTIVITIES
BLACKWELL FOREST PRESERVE LANDFILL
DUPAGE COUNTY, ILLINOIS**

Tetra Tech Oversight Personnel:
Reporting Period:

Kevin Schnoes and John Grabs
September 18 and 25; October 1, 9, 16, 23, and 30;
and November 4, 1997

INTRODUCTION

The DuPage County Forest Preserve District (FPD) is conducting final remedial design activities at the Blackwell Forest Preserve Landfill site in DuPage County, Illinois, pursuant to a consent order signed by the FPD and the U.S. Environmental Protection Agency (EPA) on September 25, 1989. After the site's final listing on the National Priorities List (NPL), a remedial investigation/feasibility study (RI/FS) was performed. On March 7, 1996, an administrative order by consent (AOC) was signed by the FPD and EPA to address installation of extraction wells, a predesign investigation, design of a leachate collection system (LCS), and cap repair. Leachate extraction wells were installed at the site in June 1996, and the predesign investigation began in October 1996. In February 1997, Montgomery Watson, consultant to the FPD, submitted a work plan for final remedial design activities at the site. The activities discussed in the work plan include recapping of certain areas of the landfill and installation of an LCS. EPA subsequently approved the work plan.

At EPA's request, Tetra Tech EM Inc. (Tetra Tech) conducted oversight of LCS installation activities on September 18 and 25; October 1, 9, 16, 23, and 30; and November 4, 1997. These activities were performed by Envirocon, subcontractor to Montgomery Watson, and Envirocon's subcontractor, RTE Environmental (RTE). This report summarizes Tetra Tech's oversight observations, discusses, issues and developments, and addresses future activities. Appendix A contains photographs of the LCS installation activities, and Appendix B contains Tetra Tech's field notes. The photograph numbers cited in this report and used in Appendix A reflect use of new cameras and coincide with the numbers cited in Appendix B; as a result, the photograph numbers periodically restart at "1."

OVERSIGHT OBSERVATIONS

Thursday, September 18, 1997 (Refer to Photographs No. 1 through 13 taken on this date)

At 10:30 a.m., Kevin Schnoes of Tetra Tech arrived at the site. Envirocon and RTE were already at the site and had begun excavating the LCS trench between extraction well EW-08 and drip leg DL-01. The trench in this area had been backfilled with a bottom layer of sand about 10 inches thick, and the LCS piping had been placed on top of the sand layer (see Photographs No. 1 and 2). A surveyor was on site to ensure that the leachate conveyance pipe in the LCS trench had the required minimum slope of 2 percent. Tetra Tech then reviewed the LCS trenching activities that had already occurred on the east slope of the landfill (see Photographs No. 3 through 12). During the review, water was noted in the excavation for DL-01. The excavation was about 15 feet in diameter (see Photographs No. 3 and 4). RTE was also observed making LCS pipe connections at EW-05 (see Photographs No. 5 and 6). LCS pipe connections had already been made at EW-04, and the LCS trench had been backfilled to within 20 feet of EW-04 (see Photographs No. 7, 8, 9, and 10). RTE backfilled the LCS trench near EW-05 after making the LCS pipe connections (see Photograph No. 13). At 3:00 p.m., RTE began consolidating clay backfill material for the LCS trench to maintain the moisture content needed for compaction testing. The clay was consolidated because rain was forecast for the evening.

Tetra Tech left the site at 4:00 p.m.

Thursday, September 25, 1997 (Refer to Photographs No. 14 through 23 taken on this date)

Kevin Schnoes of Tetra Tech arrived at the site at 10:00 a.m. Envirocon and RTE were already at the site and had begun backfilling the LCS trench between EW-08 and EW-07 with compacted clay (see Photographs No. 14 and 23). To maintain the required minimum 2 percent grade and 4 feet of cover for frost protection, the ground surface over the trench between EW-08 and EW-07 was raised (see Photograph No. 15). RTE was placing a bottom layer of sand backfill in the LCS trench between EW-08 and DL-01 (see Photographs No. 16 and 17). A portion of the trench between EW-08 and DL-01 already contained the LCS piping and had been backfilled with sand and compacted clay (see Photographs No. 18 and 19). The pipes in the trench consisted of one 6-inch-diameter PLEXCO® IPS SDR17 PE ASTM D2513 pipe for gas conveyance, one 2-inch-diameter polyvinyl chloride (PVC) Schedule 40 (SCH 40) rigid nonmetallic pipe for electrical lines, and two 2-inch-diameter PLEXCO®

IPS SDR11 PE ASTM D2513 pipes for leachate and compressed air conveyance. This type of piping was used for the entire LCS trench system. The LCS trench between EW-06 and DL-01 also already contained the piping and was backfilled with sand and compacted clay (see Photographs No. 20 and 21). The water noted in the DL-01 excavation during the previous week was still present.

At 3:15 p.m., a representative of Testing Service Corporation (TSC) arrived at the site to perform compaction tests on the clay placed over the pipes in the LCS trench between EW-08 and EW-07.

Photograph No. 22 provides an overview of the work performed on the east slope of the landfill.

Tetra Tech left the site at 5:00 p.m.

Wednesday, October 1, 1997 (Refer to Photographs No. 1 through 10 taken on this date)

Kevin Schnoes of Tetra Tech arrived at the site at about 9:30 a.m. Envirocon and RTE were already at the site and had begun excavating the LCS trench on the north slope of the landfill near EW-02 (see Photographs No. 1, 2, 3, and 4). The east slope of the landfill had been regraded, and topsoil had been placed over the area to plant grass (see Photographs No. 5, 7, and 8). The topsoil was from a stockpile on the north side of Area 3 (see Photograph No. 9). The excavation for DL-01 was still open, and the water noted previously in the excavation was still present (see Photograph No. 6). According to Jim Sheffler of the FPD, installation of DL-01 would be postponed until a tank could be delivered to the site; the water in the excavation could then be pumped out and contained.

During the excavation the LCS trench near EW-02, a corrugated steel drainage pipe was encountered and punctured by the excavator. According to the FPD, this pipe originated at the top of the landfill and was used for surface water drainage. No water present in the pipe. The pipe was temporarily patched with plastic sheeting by RTE (see Photograph No. 10). RTE planned to weld a patch over the puncture on the following day.

Tetra Tech left the site at 4:30 p.m.

Thursday, October 9, 1997 (Refer to Photographs No. 11 through 15 taken on this date)

John Grabs of Tetra Tech arrived at the site at about 9:00 a.m. and met with Jerry Pionessa of Envirocon. Tetra Tech and Envirocon then reviewed the site activities. Water previously noted in the excavation for DL-01 was still present. Envirocon stated it they planned to remove the water during the week of October 13 and begin installation of the drip leg. Surveyors were also on site to check the final grade of the LCS trench between EW-07 and EW-08. RTE was on site to assemble the compressor and control system building near the maintenance area (see Photographs No. 11 and 12) and compact the clay in the LCS trench between EW-03 and EW-01A (see Photographs No. 13 and 14). A representative of TSC arrived at the site to perform compaction testing of the compacted clay in the LCS trench (see Photograph No. 15). The testing performed by TSC indicated that the clay did not meet the required minimum compaction and moisture content levels. Envirocon decided to stop adding lifts of clay in this area until it could bring a water truck on site to moisten the clay. The clay would then be recompacted.

Tetra Tech left the site at 4:00 p.m.

Thursday, October 16, 1997 (Refer to Photographs No. 16 through 23 taken on this date)

Kevin Schnoes of Tetra Tech arrived at the site at about 12:00 noon. Earlier in the day, Mr. Schnoes had called Walter Buettner of Montgomery Watson to inquire about activities at the site. Mr. Buettner informed Mr. Schnoes that the LCS trench was being excavated near manhole 3 (MH-3) on the north side of the landfill and that electrical wiring and control boxes were being installed in the extraction well vaults. In addition, Mr. Buettner stated that the concrete foundation for the compressor and control system building had been poured. Based on this information Mr. Schnoes left the Tetra Tech Chicago office for the Blackwell site.

When Mr. Schnoes arrived at the site, Envirocon and RTE were excavating the LCS trench near MH-3 on the north side of the landfill (see Photographs No. 16, 17, and 18). RTE was also installing electrical lines at the compressor and control system building (see Photograph No. 19) and backfilling the LCS trench near EW-01 (see Photographs No. 20 and 21). RTE was not compacting the clay backfill in the LCS trench near EW-01 because this well is located in Area 4, which has to be recapped in spring 1998.

Tetra Tech then inspected the LCS trench on the east slope of the landfill. Envirocon and RTE had backfilled the entire LCS trench on the east side of the landfill except near DL-01. DL-01 had not yet been installed because water was still present in the excavation (see Photograph No. 22). Mr. Buettner had stated earlier that the suspected source of the water was the liquid cutoff trench near MH-20 and that the manhole would be temporarily plugged while the water in the excavation was pumped into a holding tank that had been delivered to the site (see Photograph No. 23). The drip leg would then be installed, and MH-20 would be unplugged and allowed to flow to the drip leg.

Tetra Tech left the site at 5:15 p.m.

Thursday, October 23, 1997 (Refer to Photographs No. 1 through 6 taken on this date)

Kevin Schnoes of Tetra Tech arrived at the site at 9:30 a.m. According to Walter Buettner of Montgomery Watson, DL-01 was to be installed on October 23, but no workers were present near the drip leg excavation. Tetra Tech inspected the DL-01 excavation. The water noted previously in the excavation was still present. Tetra Tech then proceeded to the north side of the landfill, where LCS trench activities had been occurring during the October 16 oversight visit. The LCS trench had been excavated and backfilled to the area near MH-3. The LCS trench had also been excavated through the wooded area on the north side of the landfill near the maintenance area (see Photographs No. 1, 2, and 3). Topsoil had also been placed over the LCS trench on the north side of the landfill (see Photograph No. 4).

Tetra Tech then proceeded to the site trailers near the maintenance area and met with John McDonough of Montgomery Watson. Mr. McDonough informed Tetra Tech that he was waiting for delivery of a geosynthetic composite liner (GCL) that will be used to line the LCS trench in the wooded area. According to Mr. McDonough, the reported permeability of the GCL is 5×10^{-9} centimeter per second and would be used for containment instead of the double-walled leachate conveyance pipe originally proposed. Mr. McDonough also stated that design modifications were being developed for DL-01 and that it would likely be installed during the week of October 27. Tetra Tech also noted that the leachate holding tank had been installed and covered with soil (see Photographs No. 5 and 6).

Tetra Tech left the site at 12:00 noon.

Thursday, October 30, 1997 (Refer to Photographs No. 7 through 19 taken on this date)

Kevin Schnoes of Tetra Tech arrived at the site at 10:00 a.m. and met with Jerry Pionessa of Envirocon. RTE was installing the LCS trench in the wooded area on the north side of the landfill. A portion of the LCS trench in the wooded area had been lined with a Bentofix® GCL (see Photographs No. 7, 8, and 10). The LCS trench had been backfilled with compacted clay up to MH-3 (see Photograph No. 9), and lateral connections had been installed from MH-3 to the main LCS trench (see Photograph No. 11). After the GCL had been installed in the trench, sand backfill was placed over the pipes and liner (see Photograph No. 12). The sides of the GCL were then wrapped around the pipes and sand backfill and an additional layer of GCL was placed on top to form a complete seal (see Photographs No. 13 and 15). All connections in the piping were heat-sealed (see Photograph No. 14); this method was used for all connections in the LCS trench piping. A surveyor was present to ensure that the LCS trench had the required minimum 1 percent grade in this area. RTE planned to finish excavating and backfilling the trench in the wooded area by the end of the day because of predicted inclement weather (see Photograph No. 16).

At 4:00 p.m., Tetra Tech accompanied Envirocon to check on electrical connections being performed at EW-02 (see Photographs No. 17, 18, and 19). Electrical connections had already been performed at EW-03, EW-05, EW-06, EW-07, and EW-08.

Tetra Tech left the site at 5:15 p.m.

Tuesday, November 4, 1997 (See Photographs No. 20 through 27 and 1 through 4 taken on this date)

Kevin Schnoes of Tetra Tech arrived at the site at 10:00 a.m. RTE was excavating at DL-01. Waste material, primarily wood, metal straps and I-beams, and rubber tires was encountered during excavation activities. Water appeared to be flowing through the waste material into the excavation and a sheen was noted on the water in the excavation (see Photographs No. 21, 22, and 23). Water was also noted in MH-20 about 20 feet northeast of the DL-01 excavation (see Photograph No. 24) and the lift station, which was also in place (see Photograph No. 25). MH-20 and a nearby liquid cutoff trench were suspected sources of the water in the DL-01 excavation; therefore, MH-20 was plugged, and the liquid cutoff trench piping was removed from the manhole (see Photograph No. 26).

At 10:30 a.m., Walter Buettner of Montgomery Watson arrived at the site and examined the DL-01 excavation.

At 12:30 p.m., RTE arrived with a pump to remove the water from the DL-01 excavation and MH-20 and pump it to a holding tank (see Photographs No. 26 and 27). RTE lowered the water level in the DL-01 excavation about 2 feet while pumping. About 2 feet of waste material was exposed above the water line and about 4 feet of cover material was overlying the waste. The cover material consisted of about 1 foot of sand and gravel overlain by about 3 feet of clay (see Photograph No. 1). Photograph No. 2 provides an overview of the activities conducted near DL-01.

After dewatering the DL-01 excavation and MH-20, RTE excavated a trench from the DL-01 excavation to the lift station in order to install the LCS piping. The base of this trench was backfilled with a sand and bentonite mixture to prevent water from flowing through the sand backfill toward the lift station (see Photograph No. 3). RTE also installed an approximately 1-foot-thick bentonite wall in the trench to provide a seal against movement of liquids through the sand backfill. RTE then installed the LCS piping in the DL-01 excavation and in the trench extending to the lift station (see Photograph No. 4). RTE then began pouring gravel into the DL-01 excavation to stabilize the LCS piping.

Tetra Tech left the site at 5:30 p.m.

ISSUES AND DEVELOPMENTS

Water was noted in the excavation for DL-01 from September 18 to November 4, when the drip leg installation began. Originally it was suspected that the water in the excavation might be due to rainfall. However, this water was consistently present during periods without rainfall; in addition, the water level remained relatively constant. The water was subsequently determined to be from MH-20 and a nearby liquid cutoff trench. This manhole and trench were plugged during excavation for DL-01. During removal of the piping in MH-20, water under pressure entered the manhole through the upstream end of the pipe while it was being cut. After the upstream end of the pipe was plugged, water began squirting through the concrete around the pipe where it entered the manhole (see Photograph No. 26 dated November 4, 1997), indicating that the water in the liquid cutoff trench was under pressure and was flowing toward the DL-01 area.

During excavation for DL-01, waste material such as wood, metal straps and I-beams, and rubber tires was encountered. Originally it was thought that this area was outside the limits of the landfill. The base of the DL-01 excavation was not visible because water was still present in the excavation. However, waste was present at the water line after pumping; therefore, the base of DL-01 appeared to be installed in waste. Walter Buettner of Montgomery Watson initially proposed to dispose of this waste material on site in Area 4, which still had to be capped, but Tetra Tech advised Mr. Buettner to contact EPA for direction on how to properly dispose of this material.

A GCL was used in the wooded area on the north side of the landfill instead of the double-walled pipe initially proposed. John McDonough of Montgomery Watson informed Tetra Tech that this change was approved by EPA.

A steel drainage pipe was encountered and punctured during excavation of the LCS trench near EW-02. No water was present in the pipe. RTE placed a temporary patch over the puncture and planned to weld a permanent patch over the puncture on the following day.

The minimum grade of the LCS trench was lowered to 1 percent in the wooded area on the north side of the landfill. For the rest of the LCS trench, a minimum 2 percent grade was required. The FPD informed Tetra Tech that EPA had approved the change in the grade requirement.

FUTURE ACTIVITIES

As directed by EPA, Tetra Tech will continue its oversight activities at the site and provide EPA with field oversight summary reports.

APPENDIX A
PHOTOGRAPHIC LOG
(52 Pages)



Photograph No. 1

Location: East slope of landfill

Orientation: Southwest

Date: 09/18/97

Description: Leachate collection system (LCS) trench between extraction well EW-08 and drip leg DL-01; bottom sand layer (about 10 inches thick) and LCS piping had been placed in trench



Photograph No. 2

Orientation: Southwest

Description: LCS trench between EW-08 and DL-01

Location: East slope of landfill

Date: 09/18/97



Photograph No. 3

Orientation: Northwest

Description: LCS trench between EW-06 and DL-01; excavation in foreground contained water

Location: East slope of landfill

Date: 09/18/97



Photograph No. 4

Orientation: Southeast

Description: LCS trench between EW-06 and DL-01; DL-01 excavation containing water in background

Location: East slope of landfill

Date: 09/18/97



Photograph No. 5

Location: East slope of landfill

Orientation: Southeast

Date: 09/18/97

Description: LCS trench between EW-05 and EW-06 (center); trench had been backfilled with compacted clay to within about 30 feet of EW-06 excavation



Photograph No. 6

Location: East slope of landfill

Orientation: Northwest

Date: 09/18/97

Description: LCS trench at EW-05; EW-05 casing is gray pipe with white top



Photograph No. 7

Orientation: West

Description: LCS trench between EW-05 (foreground) and EW-04; trench had been backfilled to within 50 feet of EW-05

Location: East slope of landfill

Date: 09/18/97



Photograph No. 8

Orientation: East

Description: LCS trench between EW-05 and EW-04 after it had been backfilled

Location: East slope of landfill

Date: 09/18/97



Photograph No. 9

Orientation: West

Location: Top of landfill

Date: 09/18/97

Description: LCS trench near EW-04 excavation; trench had been backfilled to within 20 feet of EW-04; pipe crossing trench was for gas conveyance from gas well to the right (yellow casing) to flare that used to be on top of landfill



Photograph No. 10

Orientation: West

Description: Close-up of LCS trench and EW-04 shown in Photograph No. 9

Location: Top of landfill

Date: 09/18/97



Photograph No. 11

Orientation: East

Description: Overview of LCS; vault for EW-05 shown in center of photograph

Location: East slope of landfill

Date: 09/18/97



Photograph No. 12

Orientation: East

Description: LCS on east slope of landfill; LCS trench excavation shown in center of photograph

Location: Top of landfill

Date: 09/18/97



Photograph No. 13

Orientation: West

Description: LCS trench near EW-05 after it had been backfilled

Location: East slope of landfill

Date: 09/18/97



Photograph No. 14

Orientation: Northwest

Description: RTE Environmental (RTE) backfilling trench between EW-08 and EW-07 with clay; clay being compacted with portable compactor

Location: East slope of landfill

Date: 09/25/97



Photograph No. 15

Orientation: West

Location: East slope of landfill

Date: 09/25/97

Description: RTE building up ground surface over LCS trench between EW-08 and EW-07



Photograph No. 16

Orientation: West

Location: Top of landfill

Date: 09/25/97

Description: LCS trench between EW-08 and DL-01 prior to installation of sand backfill and pipes



Photograph No. 17

Orientation: Southwest

Description: Sand backfill being placed in LCS trench between EW-08 and DL-01

Location: East slope of landfill

Date: 09/25/97



Photograph No. 18

Orientation: Southwest

Description: LCS trench between EW-08 and DL-01 after it had been backfilled with compacted clay

Location: East slope of landfill

Date: 09/25/97



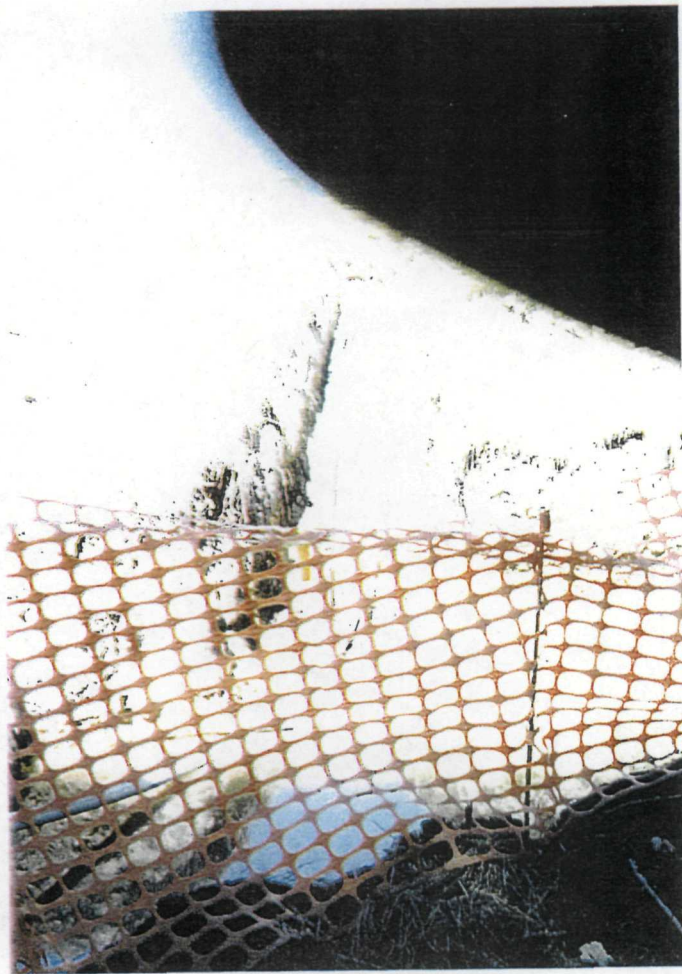
Photograph No. 19

Location: East slope of landfill

Orientation: Southwest

Date: 09/25/97

Description: Extent of compacted clay in trench between EW-08 and DL-01; water still present in DL-01 excavation



Photograph No. 20

Orientation: Northwest

Location: East slope of landfill

Date: 09/25/97

Description: LCS trench between EW-06 and DL-01; compacted clay had been placed in portion of trench; sand backfill and LCS piping had been placed in trench; rest of trench was to be backfilled when water is pumped out of DL-01 excavation



Photograph No. 21

Orientation: Northwest

Location: East slope of landfill

Date: 09/25/97

Description: EW-06 (gray pipe with white cap); leachate trench in background extended to EW-05



Photograph No. 22

Location: East slope of landfill

Orientation: East

Date: 09/25/97

Description: Overview of work performed on east side of landfill; activity on this date was between EW-07 and EW-08 in left-center of photograph)



Photograph No. 23

Orientation: East

Description: LCS trench between EW-07 (foreground) and EW-08 (background); clay in trench being compacted with portable compactor

Location: East slope of landfill

Date: 09/25/97



Photograph No. 1*

Orientation: South

Description: Overview of LCS trench excavation on north slope of landfill

Location: North slope of landfill

Date: 10/01/97

*Note: Photograph numbers restart here to reflect use of a new camera and to coincide with numbers in field notes



Photograph No. 2

Orientation: South

Location: North slope of landfill

Date: 10/01/97

Description: Close-up of LCS trench excavation on north slope of landfill; bottom layer of sand backfill had been placed in trench; EW-02 in foreground



Photograph No. 3

Orientation: North

Description: LCS trench excavation on north slope of landfill; view is from top of landfill near
EW-04

Location: Top of landfill

Date: 10/01/97



Photograph No. 4

Location: Top of landfill

Orientation: West

Date: 10/01/97

Description: Pipes in LCS trench near EW-04 (gray pipe with white cap); pipes leading to right are for LCS trench on north side of landfill; pipes in foreground are from LCS trench on east slope of landfill



Photograph No. 5

Location: East slope of landfill

Orientation: East

Date: 10/01/97

Description: Topsoil being placed on east slope of landfill after LCS trenches and extraction well vaults had been installed



Photograph No. 6
 Orientation: Southeast
 Description: DL-01 excavation with water still present

Location: East slope of landfill
 Date: 10/01/97



Photograph No. 7
 Orientation: East
 Description: Topsoil being placed on east slope of landfill after LCS trenches and extraction well vaults had been installed

Location: East slope of landfill
 Date: 10/01/97



Photograph No. 8

Location: East slope of landfill

Orientation: East

Date: 10/01/97

Description: Topsoil spread between EW-07 (foreground) and EW-08 (background)



Photograph No. 9

Location: Area 3

Orientation: North

Date: 10/01/97

Description: Stockpile of topsoil on north side of Area 3 used to cover east slope of landfill



Photograph No. 10

Orientation: North

Description: LCS trench excavation north of EW-02; worker in trench is covering hole in corrugated steel pipe with plastic sheeting

Location: North slope of landfill

Date: 10/01/97



Photograph No. 11

Location: Maintenance area

Orientation: East

Date: 10/09/97

Description: Components of compressor and control building being brought to site



Photograph No. 12

Location: Maintenance area

Orientation: North

Date: 10/09/97

Description: RTE assembling compressor and control building in maintenance area



Photograph No. 13

Location: North slope of landfill

Orientation: North

Date: 10/09/97

Description: Backfilling of LCS trench between EW-03 and EW-01A with native material previously excavated from the trench



Photograph No. 14

Location: North slope of landfill

Orientation: North

Date: 10/09/97

Description: RTE compacting clay in LCS trench between EW-03 and EW-01A



Photograph No. 15

Orientation: East

Location: North slope of landfill

Date: 10/09/97

Description: Testing Service Corporation (TSC) personnel performing compaction test on backfilled clay in trench between EW-03 and EW-01A



Photograph No. 16

Orientation: Northwest

Location: North side of landfill

Date: 10/16/97

Description: LCS trench excavation near manhole MH-3; portion of trench (foreground) had been backfilled with bottom layer of sand



Photograph No. 17

Location: North slope of landfill

Orientation: South

Date: 10/16/97

Description: LCS trench on north side of landfill; trench had been backfilled with compacted clay to base of hill; bottom layer of sand and pipes had been placed in rest of trench



Photograph No. 18

Location: North side of landfill

Orientation: Northwest

Date: 10/16/97

Description: RTE excavating LCS trench on north side of landfill near MH-2 (inside orange fencing on left); note that trench was shallow in this area; therefore, ground surface had to be built up in order to provide enough cover for frost protection



Photograph No. 19

Location: Maintenance Area

Orientation: East

Date: 10/16/97

Description: Installation of leachate collection tank and compressor and control building near maintenance area; electrical wiring also being installed



Photograph No. 20

Location: North slope of landfill

Orientation: South

Date: 10/16/97

Description: Installation of LCS trench and pipes at EW-01; pipes extending to right are connected to EW-01A; pipes extending to left are connected to EW-03



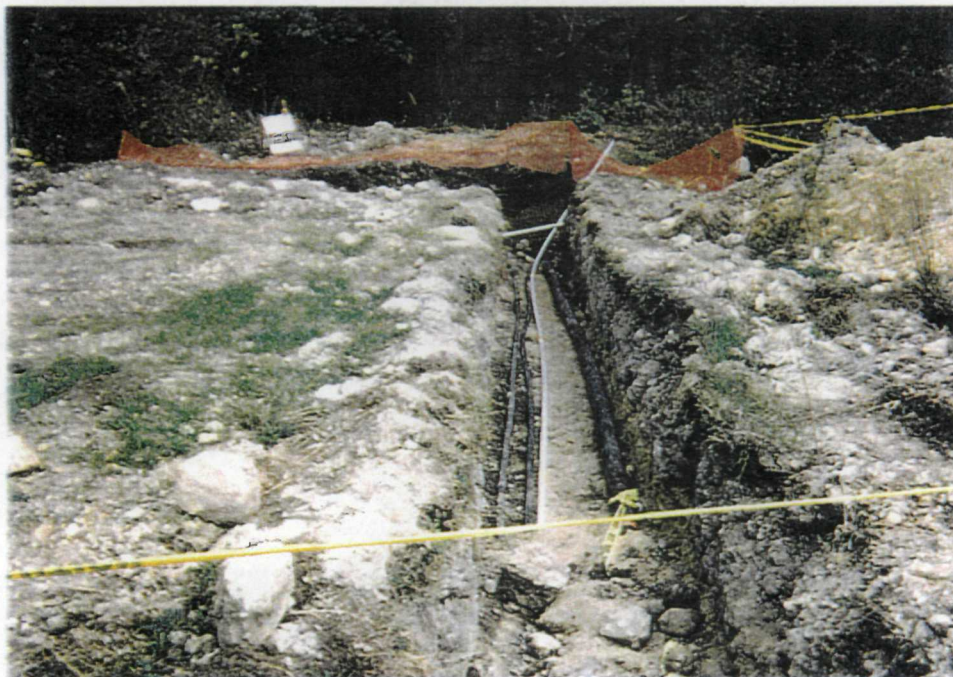
Photograph No. 21

Orientation: West

Description: Pipes connecting EW-01A (background) to EW-01 (foreground)

Location: North slope of landfill

Date: 10/16/97



Photograph No. 22

Orientation: Southeast

Description: DL-01 excavation with water still present

Location: East slope of landfill

Date: 10/16/97



Photograph No. 23

Location: East slope of landfill

Orientation: South

Date: 10/16/97

Description: DL-01 excavation with water still present; holding tank in background to be used to contain water pumped from excavation



Photograph No. 1*

Location: North side of landfill

Orientation: Northwest

Date: 10/23/97

Description: LCS trench excavated through wooded area on north side of landfill

*Note: Photograph numbers restart here to reflect the use of a new camera and to coincide with the numbers in field notes



Photograph No. 2

Location: North side of landfill

Orientation: South

Date: 10/23/97

Description: LCS trench excavated through wooded area on north side of landfill; MH-1 to the left (yellow); MH-3 in background (orange fence)



Photograph No. 3

Location: North side of landfill

Orientation: Southeast

Date: 10/23/97

Description: LCS trench where it entered wooded area on north side of landfill; MH-2 (yellow) to left; ground surface over trench in background had built up in order to provide sufficient cover for frost protection



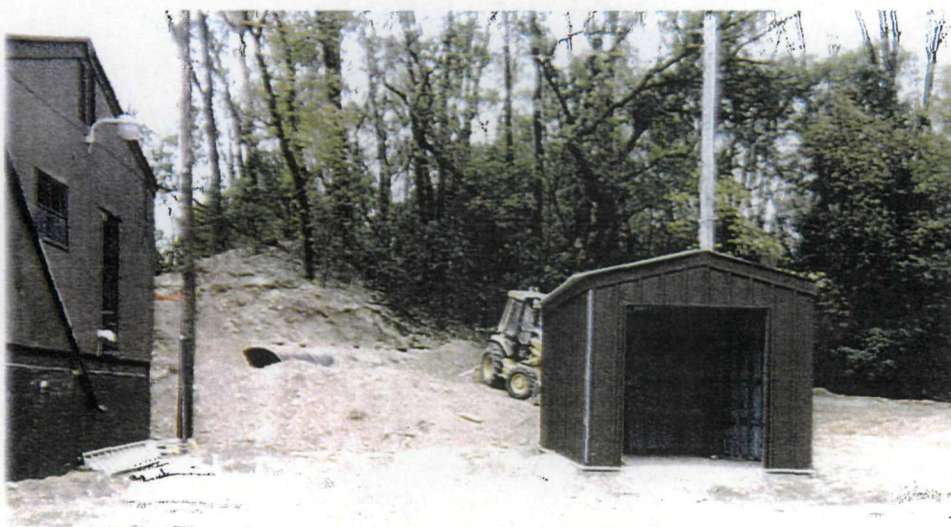
Photograph No. 4

Location: North side of landfill

Orientation: South

Date: 10/23/97

Description: LCS trench on north side of landfill after it had been backfilled with clay; portion of trench near top of the landfill had also been covered with topsoil from stockpile on north side of Area 3



Photograph No. 5

Location: Maintenance Area

Orientation: East

Date: 10/23/97

Description: Leachate collection tank after it had been partially covered; siding had been placed on compressor and control building on right



Photograph No. 6

Location: Maintenance Area

Orientation: East

Date: 10/23/97

Description: Close-up of leachate collection tank; LCS trench evident in background (orange fence)



Photograph No. 7

Location: North side of landfill

Orientation: Northwest

Date: 10/30/97

Description: LCS trench in wooded area on north side of landfill; geosynthetic composite liner (GCL) had been installed along the sides and bottom of trench; LCS pipes were placed on GCL



Photograph No. 8

Orientation: East

Location: North side of landfill

Date: 10/30/97

Description: Overview of LCS trench in wooded area on north side of landfill after GCL had been installed



Photograph No. 9

Orientation: Southeast

Location: North side of landfill

Date: 10/30/97

Description: LCS trench up to point where it entered wooded area; ground surface had been built up to provide sufficient frost protection; connections to MH-3 (orange fence) had also been made



Photograph No. 12

Orientation: Southeast

Description: Sand being placed over pipes and GCL

Location: North side of landfill

Date: 10/30/97



Photograph No. 13

Orientation: Southeast

Description: LCS trench; portions of which had been backfilled with sand, had the sides of the GCL folded over, and had an additional layer of GCL placed on top

Location: North side of landfill

Date: 10/30/97



Photograph No. 14

Orientation: North

Description: RTE making heat-seal connection of LCS pipes near MH-1

Location: North side of landfill

Date: 10/30/97



Photograph No. 15

Orientation: Southeast

Location: North side of landfill

Date: 10/30/97

Description: Close-up of LCS trench and GCL after trench had been backfilled with sand, sides of GCL had been folded over, and additional layer of GCL had been placed on top



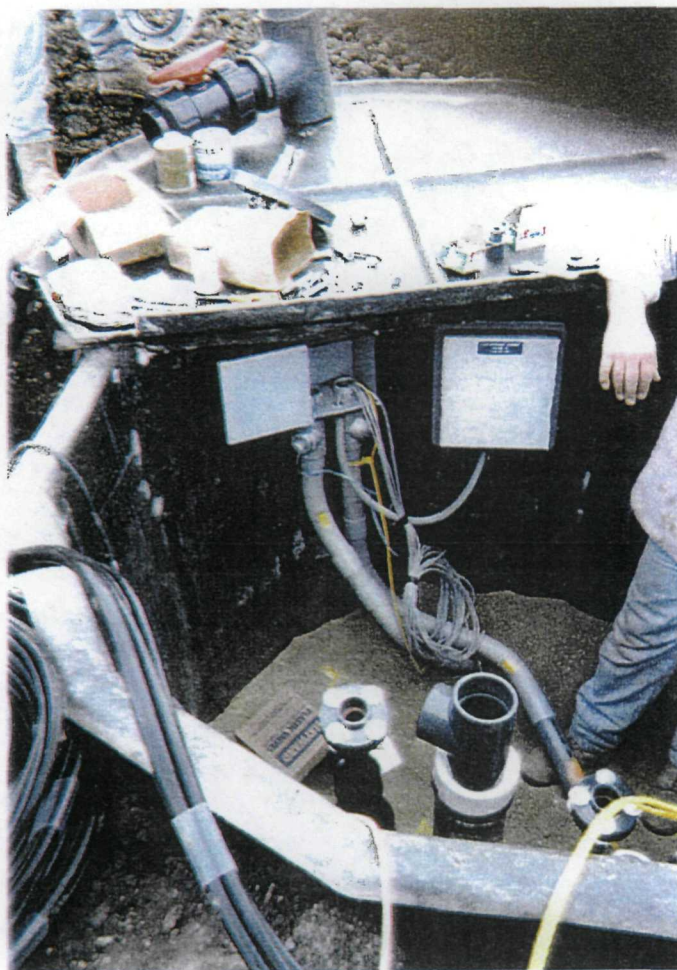
Photograph No. 16

Orientation: Southeast

Description: Backfilling of LCS trench with soil

Location: North side of landfill

Date: 10/30/97



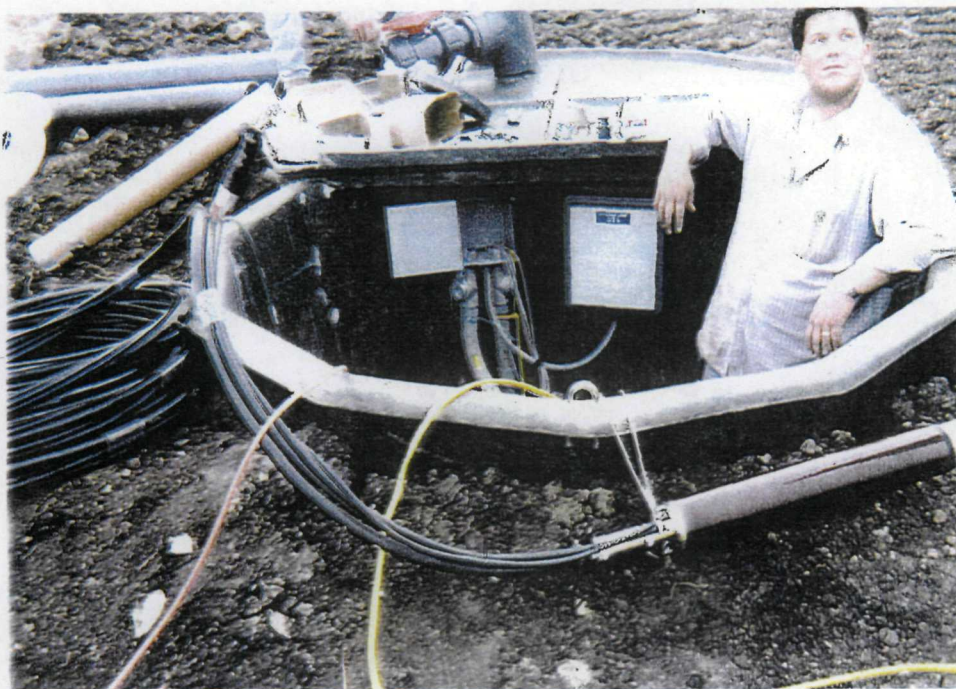
Photograph No. 17

Orientation: South

Description: Electricians installing electrical lines at EW-02

Location: North slope of landfill

Date: 10/30/97



Photograph No. 18

Orientation: South

Description: View of EW-02 and pump that would be placed in extraction well

Location: North slope of landfill

Date: 10/30/97



Photograph No. 19

Orientation: South

Description: Closeup of EW-02 vault; extraction well located in center

Location: North slope of landfill

Date: 10/30/97



Photograph No. 20

Orientation: Southwest

Description: DL-01 excavation and waste material encountered

Location: East slope of landfill

Date: 11/04/97



Photograph No. 21

Orientation: North

Description: DL-01 excavation and waste material encountered; an approximately 3-foot layer of fine-grained material and a 1-foot layer of coarse-grained (sand and gravel) material (orange layer in trenches) were present above waste material

Location: East slope of landfill

Date: 11/04/97



Photograph No. 22

Orientation: West

Description: Close-up of waste material encountered in DL-01 excavation; waste consisted mainly of wood, metal straps and I-beams, and rubber tires

Location: East slope of landfill

Date: 11/04/97



Photograph No. 23

Orientation: West

Description: Close-up of water in DL-01 excavation; sheen noted on water surface; waste floating in water consisted mainly of wood

Location: East slope of landfill

Date: 11/04/97



Photograph No. 24

Orientation: South

Location: East slope of landfill

Date: 11/04/97

Description: View of water in MH-20 near DL-01 excavation; a plug had been placed in white pipe in MH-20 to cutoff water flowing into it



Photograph No. 25

Orientation: Southwest

Location: East slope of landfill

Date: 11/04/97

Description: Lift station about 15 feet southeast of DL-01 excavation; tank in background used to contain water pumped from MH-20 and DL-01 excavation located



Photograph No. 26

Orientation: South

Location: East slope of landfill

Date: 11/04/97

Description: MH-20 after most of the water in it had been pumped out; white pipe in MH-20 had been cut and removed; ends of pipe had been plugged; however, pipe to left was leaking around outside of pipe



Photograph No. 27

Orientation: West

Description: DL-01 excavation after most of the water had been pumped from it; about 1.5 feet of waste had been exposed by pumping

Location: East slope of landfill

Date: 11/04/97



Photograph No. 1*

Location: East slope of landfill

Orientation: West

Date: 11/04/97

Description: Close-up of DL-01 excavation after about 2 feet of water had been removed

*Note: Photograph numbers restart here to reflect use of a new camera and to coincide with numbers in field notes



Photograph No. 2

Location: East slope of landfill

Orientation: South

Date: 11/04/97

Description: Overview of DL-01 excavation activities; waste removed from excavation on right; pump and white hose used to remove water from excavation in front of excavator; lift station (black pipe) on left



Photograph No. 3

Orientation: Southeast

Description: Trench connecting lift station to DL-01; trench had been backfilled with sand and bentonite layer

Location: East slope of landfill

Date: 11/04/97



Photograph No. 4

Orientation: Southwest

Description: RTE installing LCS piping in DL-01 excavation

Location: East slope of landfill

Date: 11/04/97

APPENDIX B

FIELD NOTES

(24 Sheets)

Field Logbook No. _____

Date _____

Photo 7 (W) - LCS trench between EW-05 & EW-04. Trench has been backfilled to within ~50' of EW-05

Photo 8 (E) - LCS trench between EW-05 & EW-04 after it has been backfilled

Photo 9 (W) - LCS trench & EW-04. Workers have prepared pipes for connection to EW-04. Trench backfilled to within ~20' of EW-04. Pipe crossing trench is pipe for conveying gas from well to right (yellow) to flare that used to be on top of the landfill

Photo 10 (W) - LCS trench & EW-04

Photo 11 (E) - Overview of LCS system near EW-05. Taken from top of landfill.

K. Schnoes 9/15/97

Field Logbook No. _____

Date _____

Photo 12 (E) - Overview of LCS activities on east side of landfill. Workers seen near EW-04. Photo taken from the top of the landfill

1200 Workers break for lunch
1230 Workers done w/ lunch

Continue working on well header connections. Also backfill near EW-05

Photo 13 (W) - LCS trench near EW-05 after it has been backfilled

1500 RTE is consolidating clay backfill material because it may rain tonight. This will help reduce the moisture content due to infiltration. They have to meet a certain moisture content when they backfill the LCS trench

K. Schnoes 9/15/97

1600 RTE continuing LCS trench
excavation

1700 Tetra Tech office

K. Schreier
9/18/97

1000 Kevin Schreier of Tetra Tech arrives
at the Blackwell landfill.
Jerry P. of Envirocon & workers
from RTE Environmental are
also here.

Surveyor is here taking elevations
& coordinates of LCS trench
& piping

RTE is currently backfilling
LCS trench between EW-08
& DL-01. Also making
connections between EW-08
& EW-07

Photo 14(W) - LCS trench w/
piping between EW-08 & EW-07.
Compactor used to compact
clay cover in trench

Photo 15(SW) - LCS trench between
EW-08 & DL-01

K. Schreier
9/25/97

In order to maintain grade, the trench between EW-07 & EW-08 is relatively shallow \rightarrow $< 4'$ as it has been in most cases. Therefore, the ground surface above the pipe will be built up to ensure that the piping is below the frost line.

Photo 15 (W) - Ground surface being built up between EW-08 & EW-07

Photo 17 (SW) - RTE placing bottom layer of sand backfill in LCS trench between EW-08 & DL-01

Photo 18 (SW) - Portion of LCS trench between EW-08 & DL-01 that has been backfilled w/ clay & compacted

K. Schmoes
9/25/97

Photo 19 (SW) - Southern end of compacted clay in LCS trench between EW-08 & DL-01. DL-01 in background. Water in DL-01 excavation. This water was present last week also

Photo 20 (NW) - LCS trench between DL-01 & EW-06. Compacted clay has been placed in a portion of the trench

Photo 21 (NW) - EW-06. ~~Leachate~~ LCS lines have been connected to those extending from EW-05 & towards DL-01. Connections have not yet been made to the extraction well

Photo 22 (E) - Overview of LCS activity on the east side of landfill. To the left is LCS trench between EW-08 & EW-07. Center is LCS trench between EW-08 & DL-01. To the right is LCS trench

K. Schmoes 9/25/97

Field Logbook No. _____

Date _____

between EW-06 & DL-01. in foreground
is LCS trench between EW-05 & EW-06.
This trench has been backfilled with
clay & it also crosses under the
road

Photo 23(E) - LCS trench between
EW-08 & EW-07. RTB is compacting
clay in trench over sand & pipes.
Note that the depth of the trench
shallows towards EW-08 in the
background in order to maintain
the minimum grade and to be
able to hook pipes to EW-08

1375 Testing Service Corporation
arrives at the site to conduct
compaction tests on clay
that is being backfilled in the
LCS trench. The clay being
used is from a Home Depot
construction site in Naperville.

K. Schriener
9/25/97

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Date _____

The LCS pipes being placed in the
trench include:
1 PLEXCO® 6" IPS SDR17 PE
ASTM D2513 for gas conveyance
1 PVC SCH 40 Rigid nonmetallic
2" pipe for electrical line.
2 PLEXCO® 2" IPS SDR11 PE
ASTM D2513 pipes for leachate
& compressed air conveyance

Up to this point, there has been no
trash or waste detected in the
LCS trench excavations

Photo 24(E) - Surveying LCS trench @ EW-08¹⁵
Continuing to backfill LCS
trench between EW-08 & EW-07

1600

1700

Tetra Tech offsite

K. Schriener
9/25/97

Date 10/1/97

0930 ~ 70, windy
 Kevin Schmoes of Tetra Tech
 arrives at Blackwell Landfill
 RTE is here excavating LCS
 trench on north slope of the
 landfill
 Jerry Hartung & Jim Sheffer from FPD here
 using new camera

Photo 1 (S) - LCS trench excavation
 on north slope of landfill

Photo 2 (S) - Closeup of LCS trench
 excavation on north slope of
 landfill. Bottom layer of
 sand backfill in trench.
 EW-02 in foreground

Photo 3 (W) - LCS trench excavation
 from the top of the landfill

Photo 4 (W) - LCS pipe connections
 near EW-04. Pipes leading
 to the right (north) are for
 the LCS trench on the north
 slope of the landfill

K Schmoes 10/1/97

Photo 5 (E) - LCS area on east
 slope of the landfill. Topsoil
 is being placed & graded over
 excavated areas so grass
 can be planted
 The extraction well vaults
 have been placed back over
 the extraction wells

Photo 6 (SE) - DL-01. DL-01 has
 not been completed yet.
 According to Jim Sheffer of
 the FPD, they are waiting to
 bring in a Baker tank so they
 can pump out the water in
 the DL-01 excavation

~~The pipes being KS~~

Photo 7 (NW) - Topsoil being spread on
 east slope of the landfill

Photo 8 (E) - Topsoil spread between
 EW-07 (foreground) & EW-08. The
 trench between these 2 wells
 could not be excavated to 4' bps

K Schmoes 10/1/97

✓ still maintain the necessary grade. Therefore, the area above the pipes was built ^{up to} maintain the grade & also the necessary cover so they pipes will be ^{below} the frost line.

Topsoil being placed on the east slope of the landfill is from a stockpile on the north side of Area 3.

Photo 9 (W) - Stockpile of topsoil on the north side of Area 3.

1300 Photo 10 (W) - LCS trench excavation north of EW-02. Corrugated steel drainage pipe encountered at the top of the landfill near EW-04 encountered in trench north of EW-02. The excavation punctured the pipe. The hole in the pipe will be covered w/ plastic until it is repaired.

K. Schmoes 10/1/97

RTE plans to weld a patch over the ^{W's} hole later. They showed the hole to Jerry of Envirocon & Jerry Hartwig of the FPD. They do not seem to be very concerned about.

1500 Drive around the site w/ Jerry of Envirocon to check on LCS trench on east slope.

It is anticipated that by next Tuesday, the excavation will be up to the wooded area by manholes MH-2 & MH-3.

1630 Tasha Tash offsite

K. Schmoes
10/1/97

Thur. Oct. 9, 1997

Field Logbook No. _____

Date _____

0900 Tetra Tech, John Grabs
on-site.
weather: overcast, light
rain, ~ 74°F.

0915 Checking around land fill
to get my bearings

Find some people, ^{1st} ~~contact~~
Carmen, RTE, heading
back to office trailer

0940 @ ~~1st~~ @ Envirocon trailer
w/ Jerry. He is dealing
w/ Carmen concerning
LCS piping @ MH3

1000 Jerry takes me for a
tour of the site. Near
future location of DLØ2.
Excavator digging hillside
for placement of tank. The
compressor building is
being delivered today,
foundation for it poured

ghe:rr 10/9/97

Thur. Oct. 9, 1997 31

Field Logbook No. _____

Date _____

(cont.) tomorrow, so they want
to get the tank back
into the excavation today.

Trench that is collecting
water @ DLØ2 has
water in it. They will be
pumping water and setting
bendonite plug in ~~cut-off~~
cut off trench (MH20) late
next week.

1100 @ EWØ8, Jerry Hartwig
DFP, looking for Jerry P
to tell him road needs to
be cleaned off. Wet conditions
have caused mud to be
tracked onto road.

Note: Run between
EWØ8 + DLØ1 is flat
not EWØ8 + EWØ7

Also, RTE surveying LCS
line between EWØ8 + EWØ7.
Although overall grade is
acceptable, a flatter area in
the middle section of the
run (where they filled in)

ghe:rr 10/9/97

Thur. Oct. 9, 1997

Field Logbook No. _____

Date _____

(cont.) is a little flat. So they are checking the grade here. (at the ground cover here)

1109 Jerry leaves to get KeK to open EW08. He disagrees w/ surveyor concerning location of LCS line

1130 Jerry is back couldn't find a key. Back to office trailer.

1145 Watching excavator.

1150 Corman arrives w/ building (disassembled) probably will be putting it together

photo # 11 (C) building on trailer.

1155 photo # 12 (N) building being off loaded from trailer.

10/9/97

Thur. Oct. 9, 1997

Field Logbook No. _____

Date _____

(cont.) 1200 Building unloaded & crew headed to lunch.

1248 Back from lunch. About to go see Jerry. Going to watch filling in trench from EW3 to EW6

1258 @ Trench.
photo # 13 (N)
Filling in trench

Bottom material to cover pipes is about 10" of sand. Then native material (previously excavated from trench) to 3 feet below grade. Then, 3 feet of clay, in compacted 6" lifts, to surface. Someone will be out later to do compaction tests.

10/9/97

Thur. Oct. 9, 1997

Field Logbook No. _____

Date _____

1305 Photo # 14. (N)
compacting native material
fill.

1356 Testing Service Corporation
(TSC) just arrived
to do compaction tests
on compacted clay fill
in trench.

1408 Photo # 15 (E)
doing compaction
testing.

1416 After first two tests,
moisture appears to
be low. One test showed
just below acceptable range,
second showed at lower
end of acceptable range.
will do third test to
see what we get.
Apparently someone
else from TSC had
previously said that
the soil is too dry.

Thur. Oct. 9, 1997

Field Logbook No. _____

Date _____

(cont.) it was dry. third test:
98.1% compaction
13.6% water

minimums of
need 95% compact +
14.6% water.

1424 TSC person just ran off
to talk to Jerry and make
phone calls about what
happens next. will get
first & second test results
when she gets back.
Also, one of the tests
showed below acceptable
recompaction so they are
recompacting area.

1440 First 94.4 %
13.5 %

Second 94.8 %
15.3 %

Jh C. Smith
10/9/97

Thur. Oct. 9, 1997

Field Logbook No. _____

(Lisa)

Date _____

(cont.)

TISC is back. They are shutting them down until they can get a water truck to moisten clay. Compaction being low is probably because clay is too dry.

★

1500

Clarification: shutting down stated above concerned adding any more clay to the trench. After Lisa left, both ditches, additional fill material was added further down the trench towards EWB.

Done for day here. Go back to trailer to get schedule.

1520

Got schedule. A new and improved schedule, though will be coming out in the near future.

John C. 10/9/97

Thur. Oct. 9, 1997

Field Logbook No. _____

Date _____

RTZ

1530

Actually, found that they have gotten a tank from another one of their crews working in ~~the~~ West Chicago. I'll be here in the morning.

1600

They will just be doing general clean-up work the rest of the day. Tetra Tech off-site to call Mike Bellotti EPT with progress report.

One other thing, results of cover survey between EWB + EWB. Initial results showed that, in two places, cover was too thin by ~~of~~ two inches + 0.2 inches, respectively. However, when I checked in at end of day, found that that may not be correct.

John C. 10/9/97

Thur Oct. 9, 1997

Field Logbook No.

Date

(cont.) ~~Set~~ Surveyor was going to double check his calculations to see where they actually are.

1700 John Cordas off-site.

JLC
10/9/97

Field Logbook No.

1

Date 10/16/97

Cloudy, 50s

1200 Kevin Schmoes of Telpa Tech arrives at the Blackwell site. Had called Walter Buettner of Montgomery Watson earlier to see what, if anything, was occurring at the site. Mr. Buettner said that they are currently trenching near MH-3 & thru the woods. They are also installing equipment such as wiring & control boxes in vaults. The equipment for DL-01 may arrive tomorrow & then they'll install it next week. The foundation for the control building was poured yesterday. They hope to erect the building next week. Next week, they also plan to plug MH-20 & pump water in excavation into Baber tank. Soil sampling near the trench on the north side is postponed until

K Schmoes 10/16/97

Field Logbook No. _____ Date _____

They are able to discuss comments
w/ EPA

Jerry Hartwig & Jim Sheffler of
EPA here.

Photo 16 (NW) - Excavating LCS
trench near MH-3

Photo 17 (S) - LCS trench
on north slope of landfill

1330 HkoD to maintenance area to see
how control house construction
is proceeding.
Storage tank (black) has been
installed.
Control house pad installed. Workers
constructing building.
Underground piping for electrical
installed. Line has to be run
to corner, ~150' north, for
electrical hookup from
pole.

K. Schmees 10/16/97

Field Logbook No. 9 KS Date _____

Photo 18 (E) - Storage tank,
control house, & electrical
pipe for electrical line at
maintenance area

Photo 19 (NW) - RTE excavating
LCS trench near wooded area.
RTE using laser (on tripod) to
check the depth of excavation

1500 Back at north slope of landfill

Photo 20 (S) - LCS trench & piping
at EW-01. Lateral connection
for EW-01A (Right) & EW-03 (left)

RTE is backfilling trenches w/
excavated material. They are
not doing compaction tests
because this area is part of
Area 4 that has to be
recapped next year

K. Schmees 10/16/97

Field Logbook No. _____

Date _____

Photo 21 (W) - Lateral connection
from EW-01A (Background) to
EW-01

1600 Go to inspect east slope of the
landfill.

They have filled in all the
trenches and vaults except
for DL-01. There is still water
in this excavation. They
plan to pump out the water
next week into a Baker
Tank which has arrived & is
near the excavation.

Montgomery Watson suspects
that the source of the water
is MH-20. They plan to
plug this well temporarily
while they pump out the
DL-01 excavation. Then
when the drip leg is installed,
they will replace the plug
at MH-20 & allow it to
flow to the drip leg.

K. Scholer 10/10/97

Field Logbook No. _____

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They have also spread grass seed
& straw on the east slope.

Photo 22 (SE) - Excavation & water
@ DL-01

Photo 23 (S) - DL-01 & Baker
Tank (background)

1715 Tetra Tech off site

K. Scholer
10/16/97

1

Date 10/23/97

0930 Kevin Schnoes of Tetra Tech arrives at the Blackwell site.

There are no workers present at the time. Decide to walk the site to see what has occurred since the last visit.

Check on DL 01. This drip leg is supposed to be installed today according to Walter Buettner of Montgomery Watson. However, no activity is occurring here. The drip leg appears the same. There is still water in the excavation. The Baker tank is still here too. A backhoe has been brought to the area.

K. Schnoes 10/23/97

Check on the LCS Trench on the north side. The LCS trench has been excavated, the lines installed, and backfilled up to MH-3. The trench has been excavated thru the woods to the maintenance area.

Begin using new camera.

Photo 1 (NW) - LCS trench excavated to the maintenance area.

Photo 2 (S) - LCS trench excavated thru woods to MH-3 (background) MH-7 to the left.

Note: The native material in the woods is mainly sand. In the other areas where the LCS trench was excavated, mainly clay was encountered.

Photo 3 (SE) - LCS trench where it exits the woods. The trench

K. Schnoes 10/23/97

Field Logbook No. _____ Date _____

has been backfilled w/ clay

Photo 4 (S) - LCS trench on the north slope of the landfill. The trench has been backfilled w/ clay. Near the top of the landfill, topsoil has been placed over the clay backfill.

10:15

^{supervisors} Head to trailers in the maintenance area to check for workers

John Mc Donough of Montgomery Watson & Joe Reilly of RTE are at the trailer.

John said that they were going to use a geomembrane liner to wrap around the piping in the LCS trench in the wooded area. This liner will take the place of

K. Schnoes 10/23/97

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the compacted clay backfill. The liner has a reported permeability of 5×10^{-9} cm/s. The liner will then be covered w/ excavated material. However, the liner has to be ordered; therefore, the LCS activities were put off for a while. That is why they decided to switch & work on the drip leg. According to John though, they have to do some design modifications before they can ~~not~~ install the new drip leg because the design was for the old drip leg.

If the weather holds, they may begin working on the drip leg tomorrow. However, it is supposed to rain tomorrow & thru the weekend. Therefore, they actually plan to begin working on the drip leg next Tuesday.

K. Schnoes 10/23/97

Field Logbook No. _____

Date _____

Check on control building area.

Photo 5 (E) - Leachate tank in maintenance area after it has been partially backfilled.

Compressor & Control System Building also present - constructed of metal.

Concrete pad (left) contains piping for electrical services. The electrical lines have to be run from the pole by the ^{SS} that is about 250' to the NE along the maintenance area access road.

Photo 6 (E) - Leachate ~~leachate~~ ^{KS} tank & LCS trench - above the tank in the background.

K. Schmoes
10/23/97

Field Logbook No. _____

Date _____



R · T · E

ENVIRONMENTAL SOLUTIONS INC.

Joseph L. Reilly
Project Manager

5661 W. 120th Street
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Phone: 708.388.7550
Fax: 708.388.7551

Return to talk to John. I tell him that I will call the site directly next week to see when activity at DL-01 will occur so a trip is not wasted again.

1200 Tetra Tech off site

K. Schmoes
10/23/97

Date 10/30/97

1000

Sunny, 50s
Kevin Schmoes of Tetra Tech
arrives @ Blackwell landfill
Go to site trailer & meet w/
Jerry of Envirocon

RTE is laying piping in LCS
trench. Trench has been
lined w/ Bentofix
geomembrane liner.

Surveyor is also here checking
the grade of the LCS
piping

Photo 7 (NW) - LCS trench in
woods. Trench has been
lined w/ Bentofix liner.

Photo 9 (SE) - LCS trench
just before it enters the
woods. The trench has
been covered w/ ~~topsoil~~ ^{tear} up to MH-3 (right).
Connections from LCS

K. Schmoes 10/30/97

Date _____

trench to MH-3 have also
been made

Photo 11 (SW) - Connections from
MH-3 to LCS piping

Workers are also here completing
the control house. They are
currently hanging drywall

Photo 10 (W) - LCS trench where it
turns near MH-1 & heads towards
tank. Geomembrane liner has
been placed in the trench

Photo 12 (SE) - Backfilling LCS trench
w/ sand

According to Jim Sheffer of
the FPD, the geomembrane
liner is being used instead of a
double-walled pipe, which was
originally proposed. This

K. Schmoes 10/30/97

change¹³ section was reportedly approved by EPA. I will check on this

Photo 13(N)^{14, 15} - RTE making heat seal connection near MH-2

After backfilling the LCS trench w/sand, the sides of the geomembrane liner were folded over. This left about a 1-foot wide open space on top.

Another layer of liner was placed on top over the open space. The top piece of liner extends to the sides of the LCS trench.

Overall, the LCS pipes have been wrapped like a burrito.

Photo 14^{15, 16} (SE) - LCS trench after sides of membrane have been folded & a top piece of liner placed on top

K. Schmoes 10/30/97

Photo 15 (SE) - Closeup of LCS liner

RTE plans to backfill the rest of the LCS trench because it is supposed to rain tonight. The surveyor has surveyed the LCS pipe up to near the leachate tank. The pipe meets the LCS¹⁵ 1% grade according to the surveyor.

Photo 16 (SE) - RTE backfilling LCS trench in the woods

11:00 Go to Envirocon trailer to meet w/ Jerry

Go w/ Jerry to check on well^{extraction} completion

The electricians are completing hookups @ EW-02. They have already hooked up EW-03, EW-05,

K. Schmoes 10/30/97

Field Logbook No. _____ Date _____

EW-06, EW-07, + EW-08. They plan to work on EW-01 next. When it gets dark, they will go and work on the control building.

Photo 17 (S). Electricians conducting hookup @ EW-02

Photo 18 (S). Pump that will be placed in EW-02

Photo 19 (S). Closeup of internal working of EW-02. Pipes are present for extraction well

Tell Jerry that I will call next week to check on site activities

K. Schuss 10/30/97

Field Logbook No. _____ Date _____

1715 Tetra Tech off site

K. Schuss 10/30/97

Date 11/4/97

Overcast, 4. rain, 40

1000 Kevin Schmoor of Tetra Tech arrives @ the Blackwell landfill

Workers are excavating the drip leg (DL-01) on the east side of the landfill

Waste has been encountered while excavating DL-01. Waste consists of wood, metal scraps, I-beam. Water is flowing thru the waste into the excavation

Jerry P. of Envirocon leaves to get pump to pump out the excavation

Photo 20 (SW) - DL-01 excavation w/ waste that has been encountered

K. Schmoor 11/4/97

Date _____

Photo 21 (W) - DL-01 excavation & waste. Sheen noted on water in excavation

Photo 22 (W) - Closeup of waste removed from excavation

Photo 23 (W) - Closeup of water in DL-01 excavation. Waste in water consists mainly of wood

Photo 24 (S) - Water in MA-20. To the NE of DL-01 excavation. Pipe in MA-20 will be plugged. Sheen on water

Photo 25 (SW) - Left station SE of DL-01, ~15' from DL-01

1030 Walter Butcher of Montgomery Watson arrives @ the site

K. Schmoor 11/4/97

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1230 Workers return w/ pump
The pump has a capacity of
320 gpm

MH-20 is also being pumped
out.

All water being pumped is
going to a Baker tank
about 100' to the south

Photo 26 (S) - MH 20 after it
has been pumped out. The
leachate pipe in it has been
cut & removed & the ends
capped. The area around
the pipe to the left is
leaking around the outside
of the pipe & filling up the
manhole. This manhole
will be pumped out again
before it is connected to
the lift station

K. Schnoes 11/4/97

Field Logbook No. _____ Date _____

As long as the ends of the
pipes are capped, it should
not pose a problem to further
excavation

1415 Actually the pipe on the right
side of MH-20 appears to be
pumping water into the drip
leg excavation. RTE
plans to excavate this
pipe & cap it so they can
dewater the DL-01 excavation.
They can then dig the trench to
connect it to DL-01 to the
lift station

Photo 27 (W) - DL-01 excavation
after it has been partly
dewatered & waste is
evident (S). Trench in the
foreground is to connect
the lift station to DL 01

K. Schnoes 11/4/97

Start New Camera

Photo 1 (W) - Closeup of DL-Ø1 excavation after dewatering. No waste in background. Silt wall to northwest side. Pumped water down ~ 2'.

Photo 2 (S) - Overview of DL-Ø1 excavation. Baker tanks used to contain water in background. DL-Ø1 excavation & waste removed from excavation on right. MH-20 on left. Lift station (black pipe) near bucket of excavator. Trench to connect lift station to DL-Ø1 in center.

1500

RTE is backfilling & work between the lift station & DL-Ø1. Base of backfill is sand/bentonite mix.

K. Schuess 11/4/97

Photo 3 (SE) - LKS trench w/ sand/bentonite backfill.

Photo 4 (SW) - Installation of DL-Ø1 lift station piping.

RTE is backfilling the drip leg excavation w/ gravel backfill. The backfill will help hold down the lift & the piping. However, box appears to be in waste. Can't see bottom. [700] It is getting dark. RTE hopes to finish backfilling the trench & the sand/bentonite backfill & the drip leg w/ gravel.

Walter Buellner informed me that the new monitoring well have been installed. This surprises me because Tatra Tech was never informed about them. Walter said they were installed in the last month. I did not

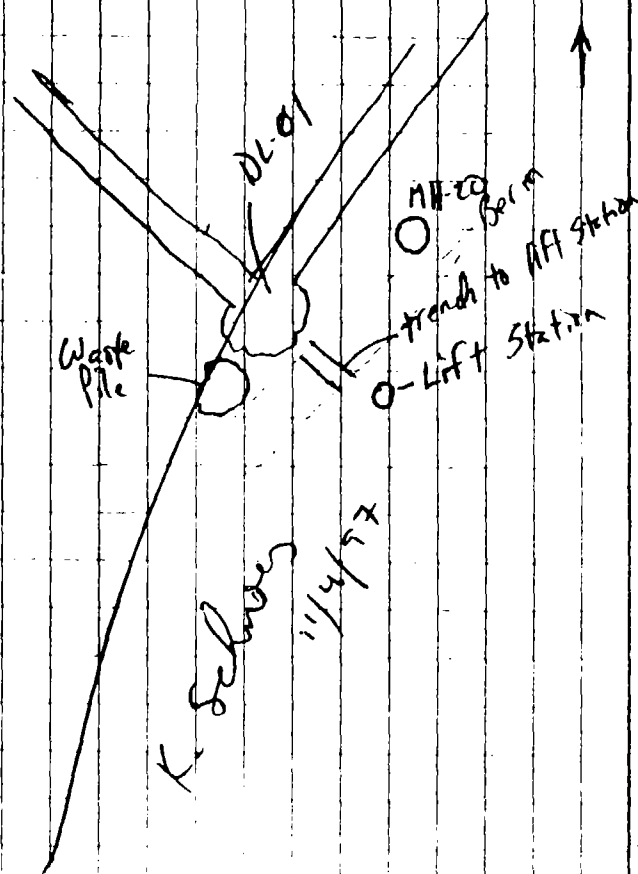
K. Schuess 11/4/97

see any drill rigs or other well installation people at the site since I have been coming here.

Walter also stated that since the waste appears to be mainly construction waste, he would like to dispose of it onsite. He would like to put it in Area 4 since this area still has to be capped. I told him I could not give him the permission to do this & that he would have to discuss this with EPA.

1730 Leave the site to call Mike Bellet & inform him on days activities. Especially want to notify him that the drip leg appears to be at the edge
K. Schover 11/4/77

or limits of the waste. And that the base of the drip leg appears to be in waste (at least on the southwest side)



1030 Kevin Schnoes of Tetra Tech arrives at Blockwell landfill. RTE is here excavating leachate collection system (LCS). Surveyors are present surveying the LCS to determine it has at least a 2% grade. Up to this point, the grade has not been a problem because they have been excavating on the relatively steep side slopes of the landfill.

Jerry P. of Envirocon & John McDonough of Montgomery-Watson are also here.

- Begin using new camera

1100 Photo 1 (SW) - LCS trench excavated to road between EW-08 & ^{DL-01} EW-05. Pipes & bottom layer of sand backfill have already been placed in the trench.

K. Schnoes 9/18/97

Photo 2 (SW) - Continuation of LCS trench between ^{DL-01} EW-06 & EW-08.

Photo 3 (NW) - LCS trench between EW-06 & ^{DL-01} EW-05. Location of ~~EW-06~~ in foreground → excavation for EW-06 contains water from rain on Tuesday (9/16). Workers in background making LCS connections to EW-06.

Photo 4 (SE) - LCS trench between EW-06 & DL-01. Water in excavation from rain on Tuesday.

Photo 5 (SE) - LCS trench between EW-05 & EW-06. Trench has been backfilled to w/in ~30' of EW-06. Workers making LCS connections at EW-06.

Photo 6 (NW) - LCS trench @ EW-05. Workers have prepared LCS connections.

K. Schnoes 9/18/97